

## **Notes from Energy and Climate Working Group Break Sessions**

Washington DC

January 9, 2013

### **Notes from the first breakout session:**

Richard Eckman provided context for the Decision Support Tool catalog.

- Department of Energy has been the driving force in renewable energies
- Many Decision Support Tools (DST) exist, but lack transparency and interoperability
- ESIP's summer meeting 2011 seeded the idea for a catalog of DST's
- White paper written to address the needs of the Catalog
- ESIP provided funding in summer 2012.

Alvaro Graves demonstrated the functionality of the tool-

- The website provides a dynamic catalog of renewable energy tools
- Brings disparate tools into one interface
- Addresses the need for a catalog, but does not the individual models or DSTs
- The tool identifies interoperability between models
- Provides multiple levels of user involvement

From discussion following the presentation-

Laurie Allen - This is a prototype tool and there will be other components added in with time and funding

Laurie Allen - The goal of this session is to get this project off the ground

Brian Wee - The user forum should be linked with the searchable tabs

Paul Rodriguez - if the forums are searchable then they will be web-indexed

Brian Wee - A function that would increase the value of the catalog would be the ability for side-by-side comparisons of the tools

Rick Hooper - These types of tools must be maintained or they become irrelevant

Laurie Allen - The quality control regarding whether or not a tool gets published will need to be established

Rick Hooper - If a tool is vetted, this could be a tag. This would allow the end user to filter out less rigorous models

Rick Hooper - What is the value added beyond a simple web search? This needs to be identified to make the product more viable

Laurie Allen - This tool allows the user to compare tools.

Laurie Allen - The need to be able to compare tools reinforces the need for agency support

Brian Wee - The data sets used in the models need DOI's so that can be referenced

## **Notes from presentations in the second breakout session:**

### **Nancy Searby - NASA SERVIR program**

*Using geospatial information to enable climate-resilient decisions in the developing world*

- NASA SERVIR's goal is to help the developing world improve their ability to adapt to climate change
- SERVIR goes from space to village by harnessing the United States' ability to help
- SERVIR focuses on sharing ideas and experiences with the goal of developing internal capacity and improve access to data and models
- SERVIR has multiple global partnerships and regional specific partnerships
  - 11 new investigators for partnerships have come online
- Works across thematic areas including energy and climate
- [servirglobal.net](http://servirglobal.net) helps serve USAID by reducing deforestation and greenhouse gas emissions
  - helps countries and communities respond to climate change
- SERVIR team works to resolve data input problems
- SERVIR taps into the emerging field of wireless technology to build non-web sensor networks
  - This allows the development and deployment of a sensor focusing on a specific hazard/problem

How can ESIP help?

- Convert existing climate data layers into a web-friendly format
- Help simplify the exhaustive amount of data
- Build capacity to understand climate data

**Rick Hooper - Consortium of Universities for the Advancement of  
Hydrologic Science, Inc (CUAHSI)**

*CUAHSI Hydrologic Information System and the Water-Energy Nexus*

- Hydrologic Information Systems (HIS) connects people with data supporting in situ data
- The United States has a GIS data repository, but no water data repository
- WaterML and a global catalog help address this lack of resource that tries to build a service oriented architecture for water data
- Hydrodesktop provides gridded data as virtual gauges, allowing data to be transposed through time
  - Bill Teng of NASA and an ESIP member has provided the bulk of this work
- Provides the ability to isolate areas of interest (watersheds) and extract data
- Provides a plug-in architecture with built-in analysis and faceted searches
- Provides a meta data catalog and ontology
- The end goal is to provide a platform for publishing water data
- Logical hierarchy for data discovery
- Allows non-expert users to access data

CUAHSI's future plans include the development of a water data center with broader collaboration with the World Meteorological Organization and Open Geospatial Consortium

- This will move towards the goal of developing, and supporting a standard water data format that can be more easily accessed.
- This approach will provide multiple services for multiple clients

## **Matt Zentner – Defense Intelligence Agency**

### *Security Perspectives of Water Treaties and Water Resources Under Certain Climate Change Scenarios*

- Defense Intelligence Agency is a consumer of water resource data
- *Water Security* is the availability of water in the right amounts of water at the right times as it impacts human security, national Security, and economic growth
- Water is often used as a tool in conflict, but is not the source of conflict
- The National Intelligence Council's Assessment on Global Water Security was released in March, 2012 (<http://www.state.gov/e/oes/water/ica/index.htm>)
  - This assessment looked 30 years out and factored in climate, population, and economic change
- Factors that would tend towards vulnerability were rapid environmental change and rapid or asymmetric growth
- Strong international water treaties lead to discussion and mitigate conflict

## CASE STUDIES

- Indus River Treaty known as a very strong treaty
- Works well across countries
- Treaty does not include variability and flooding
- New stressors include:
  - Water development in Afghanistan
  - Fluctuations in flow due to changes in glaciers
  - Region has many conflicts
  - Dam and development projects

## How can ESIP help?

- Limited data at a global scale necessitates the need for security assessments to be based upon best estimates
- Infilling of data deficiencies would provide improved estimates and better-informed assessments